

Exhibit 300: Capital Asset Plan and Business Case Summary

Part I: Summary Information And Justification (All Capital Assets)

Section A: Overview

1. **Date of Submission:** 2011-02-25

2. **Agency:** 026

3. **Bureau:** 00

4. **Name of this Investment:** JSC Software Development/Integration Laboratory

5. **Unique Project (Investment) Identifier (UPI):** 026-00-01-05-01-1408-00

6. **What kind of investment will this be in FY 2012?:** Operations and Maintenance

- Planning
- Full Acquisition
- Operations and Maintenance
- Mixed Life Cycle
- Multi-Agency Collaboration

7. **What was the first budget year this investment was submitted to OMB?** FY2001 or earlier

8.

- a. **Provide a brief summary of the investment and justification, including a brief description of how this closes in part or in whole an identified agency performance gap, specific accomplishments expected by the budget year and the related benefit to the mission, and the primary beneficiary(ies) of the investment.**

The Software Development and Integration Laboratory (SDIL) houses the Command & Data Handling (C&DH) subsystem along with other ISS subsystem hardware. The SDIL C&DH is comprised of flight equivalent hardware replicating the onboard computers & network capabilities of the International Space Station (ISS). The SDIL facility also includes the ground support & test functions for the associated ground operations & sustaining engineering. The ISS Avionics Software and Integration Laboratory (SDIL) consists of highly specialized systems and developers closely supporting the on-orbit configuration. The primary concerns for these systems are tight configuration management, isolated operations and availability. The ISS Program has expended extensive resources to develop the consolidated self-sufficient environment to meet these needs. Due to the specialized nature of this investment, as described above, it would not be cost effective to migrate this functionality to a cloud service at this time. The Consolidated Labs group within Boeing provides the overall operations & sustaining resources for the multiple labs that comprise the SDIL facility (e.g. Software Verification Facility – SVF, Integrated Test Rig – ITR, Prime Software Production Facility – PSPF, etc). The support includes activities like SDIL systems engineering, operations, scheduling, and maintenance of test platforms, and computer systems security for all systems. The SDIL activity supports the International Space Station Program, International Partners and Participants and payload and experiment developers.

- b. **Provide any links to relevant websites that would be useful to gain additional information on the investment including links to GAO and IG reports.**

Title	Link
NONE	

9.

- a. **Provide the date of the Agency's Executive/Investment Committee approval of this investment.**
2010-09-02

- b. **Provide the date of the most recent or planned approved project charter.** 2004-07-01

10. Contact information?

- a. **Program/Project Manager Name:** *
Phone Number: *
Email: *
- b. **Business Function Owner Name (i.e. Executive Agent or Investment Owner):** Kevin A. Rigsby
Phone Number: *
Email: *

11. What project management qualifications does the Project Manager have? (choose only one per FAC-P/PM or DAWIA): Project manager has been validated according to FAC-P/PM or DAWIA criteria as qualified for this investment.

- Project manager has been validated according to FAC-P/PM or DAWIA criteria as qualified for this investment.
- Project manager qualifications according to FAC-P/PM or DAWIA criteria is under review for this investment.
- Project manager assigned to investment, but does not meet requirements according to FAC-P/PM or DAWIA criteria.
- Project manager assigned but qualification status review has not yet started.
- No project manager has yet been assigned to this investment.

Section B: Summary of Funding (Budget Authority for Capital Assets)

1.

Table I.B.1: Summary of Funding

(In millions of dollars)

(Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)

	PY-1 and earlier	PY 2010	CY 2011 (CY Continuing Resolution)	BY 2012	BY+1 2013	BY+2 2014	BY+3 2015	BY+4 and beyond	Total
Planning:	*	*	*	*	*	*	*	*	*
Acquisition:	*	*	*	*	*	*	*	*	*
Planning & Acquisition Government FTE Costs	*	*	*	*	*	*	*	*	*
Subtotal Planning & Acquisition(DME):	*	*	*	*	*	*	*	*	*
Operations & Maintenance:	*	*	*	*	*	*	*	*	*
Disposition Costs (optional):	*	*	*	*	*	*	*	*	*
Operations, Maintenance, Disposition Government FTE Costs	*	*	*	*	*	*	*	*	*
Subtotal O&M and Disposition Costs (SS):	*	*	*	*	*	*	*	*	*
TOTAL FTE Costs	*	*	*	*	*	*	*	*	*
TOTAL (not including FTE costs):	*	*	*	*	*	*	*	*	*
TOTAL (including FTE costs):	*	*	*	*	*	*	*	*	*
Number of FTE represented by	*	*	*	*	*	*	*	*	*

Table I.B.1: Summary of Funding
(In millions of dollars)

(Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)

	PY-1 and earlier	PY 2010	CY 2011 (CY Continuing Resolution)	BY 2012	BY+1 2013	BY+2 2014	BY+3 2015	BY+4 and beyond	Total
Costs:									

2. Insert the number of years covered in the column “PY-1 and earlier”: 5

3. Insert the number of years covered in the column “BY+4 and beyond”: *

4. If the summary of funding has changed from the FY 2011 President’s Budget request, briefly explain those changes:

*

Section C: Acquisition/Contract Strategy (All Capital Assets)

1.

Table I.C.1 Contracts Table

Contract Status	Contracting Agency ID	Procurement Instrument Identifier (PIID)	Indefinite Delivery Vehicle (IDV) Reference ID	Solicitation ID	Alternative financing	EVM Required	Ultimate Contract Value (M)	Type of Contract/Task Order (Pricing)	Is the contract a Performance Based Service Acquisition (PBSA)?	Effective date	Actual or expected End Date of Contract/Task Order	Extent Completed	Short description of acquisition
Awarded		NAS-15-10000			*	*	\$1,986.0	Time and Materials	Y	2003-06-09	2015-09-30		

2. If earned value is not required or will not be a contract requirement for any of the contracts or task orders above, explain why:

*

3.

- a. Has an Acquisition Plan been developed? If yes, please answer the questions that follow *
- b. Does the Acquisition Plan reflect the requirements of FAR Subpart 7.1 *
- c. Was the Acquisition Plan approved in accordance with agency requirements *
- d. If "yes," enter the date of approval? *
- e. Is the acquisition plan consistent with your agency Strategic Sustainability Performance Plan? *
- f. Does the acquisition plan meet the requirements of EOs 13423 and 13514? *
- g. If an Acquisition Plan has not been developed, provide a brief explanation.

*

Part II: IT Capital Investments

Section A: General

1.
 - a. Confirm that the IT Program/Project manager has the following competencies: configuration management, data management, information management, information resources strategy and planning, information systems/network security, IT architecture, IT performance assessment, infrastructure design, systems integration, systems life cycle, technology awareness, and capital planning and investment control. yes
 - b. If not, confirm that the PM has a development plan to achieve competencies either by direct experience or education.
2. Describe the progress of evaluating cloud computing alternatives for service delivery to support this investment. security and circumstances do not allow consideration of cloud computing at this time.
3. Provide the date of the most recent or planned Quality Assurance Plan 2009-01-11
4.
 - a. Provide the UPI of all other investments that have a significant dependency on the successful implementation of this investment. 026-00-01-05-01-1001-00,026-00-01-05-01-5030-00
 - b. If this investment is significantly dependent on the successful implementation of another investment(s), please provide the UPI(s).
5. An Alternatives Analysis must be conducted for all Major Investments with Planning and Acquisition (DME) activities and evaluate the costs and benefits of at least three alternatives and the status quo. The details of the analysis must be available to OMB upon request. Provide the date of the most recent or planned alternatives analysis for this investment. 2004-07-01
6. Risks must be actively managed throughout the lifecycle of the investment. The Risk Management Plan and risk register must be available to OMB upon request. Provide the date that the risk register was last updated. 2009-01-11

Section B: Cost and Schedule Performance

Table II.B.1. Comparison of Actual Work Completed and Actual Costs to Current Approved Baseline:

Description of Activity	DME or SS	Agency EA Transition Plan Milestone Identifier	Planned Cost (\$M)	Actual Cost (\$M)	Planned Start Date	Actual Start Date	Planned Completion Date	Actual Completion Date	Planned Percent Complete	Actual Percent Complete
FY 03 Maintenance Cost	SS	*	\$185.9	\$173.1	2002-10-01	2002-10-01	2003-09-30	2003-09-30	100.00%	100.00%
FY 04 Maintenance Cost	SS	*	\$144.6	\$141.0	2003-10-01	2003-10-01	2004-09-30	2004-09-30	100.00%	100.00%
FY 05 Maintenance Cost	SS	*	\$155.4	\$148.0	2004-10-01	2004-10-01	2005-09-30	2005-09-30	100.00%	100.00%
FY 06 Maintenance Cost	SS	*	\$149.3	\$136.8	2005-10-01	2005-10-01	2006-09-30	2006-09-30	100.00%	100.00%
FY 07 Maintenance Cost	SS	*	\$135.0	\$126.4	2006-10-01	2006-10-01	2007-09-30	2007-09-30	100.00%	100.00%
FY 08 Maintenance Cost	SS	*	\$118.7	\$120.6	2007-10-01	2007-10-01	2008-09-30	2008-09-30	100.00%	100.00%
FY 09 Maintenance Cost	SS	*	\$168.7	\$162.7	2008-10-01	2008-10-01	2009-09-30	2009-09-30	100.00%	100.00%
FY 10 Maintenance Cost	SS	*	\$167.3	\$173.9	2009-10-01	2009-10-01	2010-09-30	2010-09-30	100.00%	100.00%
FY 11 Maintenance Cost	SS	*	\$114.1	\$66.6	2010-10-01	2010-10-01	2011-09-30		51.00%	47.70%
FY 12 Maintenance Cost	SS	*	*	*	2011-10-01	*	2012-09-30	*	*	*
FY 13 Maintenance Cost	SS	*	*	*	2012-10-01	*	2013-09-30	*	*	*

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FY 14 Maintenance Cost	SS	*	*	*	2013-10-01	*	2014-09-30	*	*	*
FY 15 Maintenance Cost	SS	*	*	*	2014-10-01	*	2015-09-30	*	*	*
FY 16 Maintenance Cost	SS	*	*	*	2015-10-01	*	2016-09-30	*	*	*

2. If the investment cost, schedule, or performance variances are not within 10 percent of the current baseline, provide a complete analysis of the reasons for the variances, the corrective actions to be taken, and the most likely estimate at completion. None required at this time.

3. For mixed lifecycle or operations and maintenance investments an Operational Analysis must be performed annually. Operational analysis may identify the need to redesign or modify an asset by identifying previously undetected faults in design, construction, or installation/integration, highlighting whether actual operation and maintenance costs vary significantly from budgeted costs, or documenting that the asset is failing to meet program requirements. The details of the analysis must be available to OMB upon request. Insert the date of the most recent or planned operational analysis.

2009-06-26

4. Did the Operational analysis cover all 4 areas of analysis: Customer Results, Strategic and Business Results, Financial Performance, and Innovation?

yes

Section C: Financial Management Systems

Table II.C.1: Financial Management Systems			
System(s) Name	System acronym	Type of Financial System	BY Funding

*

*

*

*

Section D: Multi-Agency Collaboration Oversight (For Multi-Agency Collaborations only)

Table II.D.1. Customer Table:	
Customer Agency	Joint exhibit approval date
NONE	

Table II.D.2. Shared Service Providers		
Shared Service Provider (Agency)	Shared Service Asset Title	Shared Service Provider Exhibit 53 UPI (BY 2011)
*	*	*

Table II.D.3. For IT Investments, Partner Funding Strategies (\$millions):							
Partner Agency	Partner exhibit 53 UPI (BY 2012)	CY Monetary Contribution	CY “In-Kind” Contribution	CY Fee-for-Service	BY Monetary Contribution	BY “In-Kind” Contribution	BY Fee-for-Service
NONE							

Table II.D.4. Legacy Systems Being Replaced		
Name of the Legacy Investment of Systems	Current UPI	Date of the System Retirement
*	*	*

Section E: Performance Information

Table I.E.1a. Performance Metric Attributes

Measurement Area (For IT Assets)	Measurement Grouping (For IT Assets)	Measurement Indicator	Reporting Frequency	Unit of Measure	Performance Measure Direction	Baseline	Year Baseline Established for this measure (Origination Date)
Technology	Service Availability	Availability of 95% of the SDIL servers providing the ISS with latest Flight Avionics software which increases safety and reliability to ISS on orbit operations. Goal 8 and Goal 9	monthly	% of server availability	Increase	99%	2004-10-01
			Fiscal Year	Target	Actual Results	Target "Met" or "Not Met"	Last Updated
			2010	99%	99.99%	Met	2010-09-17
			2011	99%	TBD		2010-09-17
			2012	99%	TBD		2010-09-17
Mission and Business Results	Space Operations	Mission Critical Space Station Software Anomalies/ Software Deficits. Goal 8, Objective 8.4 Assure capabilities for world-class research on a laboratory in low Earth orbit.	monthly	Number of software anomalies & defects	Decrease	0	2004-10-01
			Fiscal Year	Target	Actual Results	Target "Met" or "Not Met"	Last Updated
			2010	0	0	Met	2010-09-17
			2011	0	TBD		2010-09-17

			2012	0	TBD		2010-09-17
Processes and Activities	Errors	New ISS Software Defects Found On-Orbit per On-Orbit KSLOC Goal 8 and Goal 9	monthly	Number of defects found on orbit	Decrease	5.0	2004-10-01
			Fiscal Year	Target	Actual Results	Target "Met" or "Not Met"	Last Updated
			2010	5.0	4.9	Met	2010-09-17
			2011	5.0	TBD		2010-09-17
			2012	5.0	TBD		2010-09-17
Customer Results	Delivery Time	Software Products delivered on-time based on Avionics and software schedules on the original calendar plan (block release basis), decoupling them from launch dates Goal 8 and Goal 9	monthly	On-time delivery of products	Increase	100%	2004-10-01
			Fiscal Year	Target	Actual Results	Target "Met" or "Not Met"	Last Updated
			2010	100%	100%	Met	2010-09-17
			2011	100%	TBD		2010-09-17
			2012	100%	TBD		2010-09-17

* - Indicates data is redacted.